

Abstract

A belt tensioner for a power transmission belt is provided that utilizes asymmetric motion control and is operable in a first condition and a second condition. The belt tensioner has an arm with a belt engaging section and a drum section, a support member for securing the tensioner relative to the belt, and a spring that urges the arm to pivot about the support member in a first direction and urges the belt engaging section against the belt with a force to tension the belt. The tensioner also has a stator coupled to the support member to form arcuate spaces circumferentially spaced around the stator between the stator and the drum section and arcuate shaped wedges in the arcuate spaces. The tensioner further has a Belleville spring coupled to the arm for pivoting therewith and a friction device in sliding contact with the wedges and Belleville spring.